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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,446

01/04/2006

Ikuo Shimoda

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NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER

BURCH, MELODY M

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,446	<b>Applicant(s)</b> SHIMODA ET AL.	
	<b>Examiner</b> Melody M. Burch	<b>Art Unit</b> 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/1/09</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/2/09 and 7/27/09 has been entered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of the weight being formed substantially in the shape of a regular polygon including a regular triangle or a circle in a plan view as recited in claim 2 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

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consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5445249 to Aida et al. in view of JP-542789 (JP'789).

Re: claims 1-8. Aida et al. show in figure 2 a dynamic vibration absorber comprising: a weight 1, a frame body 3 which surrounds the weight, a plurality of vertically mounted members 10,11,12 which are interposed between the frame body and the weight so as to hold the weight with respect to the frame body movably with respect to all directions in a plane and immovably in a vertical direction perpendicular to the plane as disclosed in col. 5 line 66 - col. 6 line 1, and a damping mechanism 2,6 for damping the vibration of the weight in the plane.

Aida et al. are silent with regards to the vertically mounted members being U-shaped leaf spring.

JP'789 teaches in figures 1 and 2 the use of U-shaped leaf springs 6 used to damp movement of a weight 5 within a frame 3,10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vertically mounted members or magnetic dampers of Aida et al. to have been dampers in the form of U-shaped leaf springs, as taught by JP' 789, in order to provide a functionally equivalent means of creating a damping force which acts on the weight 1. Examiner notes that the comparable structure of the above combination compared to the instant invention supports a finding that the above combination functions so as to determine a natural frequency for the weight to the same extent as the instant invention functions so as to determine a natural frequency for the weight.

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6. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5445249 to Aida et al. in view of JP'789 as applied above, and further in view of US Patent 2004/0134733 to Wood.

Aida et al., as modified, are silent with regards to the tuning of the system.

Wood teaches in paragraph [0017] and in figure 2 the use of a dynamic absorber being tuned to a natural frequency of a structure where the dynamic vibration is installed and also teaches the use of a plurality of dynamic vibration absorbers wherein a natural frequency of the weight, the mass of the weight, the spring constant or the damping coefficient of at least one of the dynamic vibration absorbers is different from that of another.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the tuning of the system of Aida et al., as modified, to have included the abovementioned tuning arrangement, as taught by Wood, in order to provide a quieter machine or system.

### ***Response to Arguments***

7. Applicant's arguments with respect to the claims, particularly with regards to the teaching of wire springs by Besson et al., have been considered but are moot in view of the new ground(s) of rejection. Nevertheless, Examiner will address the arguments presented in the amendment filed 6/2/09 with respect to the Aida et al. reference below. Applicant argued that it would be difficult to hold the weight immovably in a vertical direction using the wire springs of Besson et al. Although Besson et al. is no longer used in the rejection, it is worthwhile to note that the modification of Aida et al. did not

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and currently does not result in the elements 8 and 9 being replaced by the spring members of the teaching reference. Instead, it is emphasized that it is the vertically mounted damper members 10,11,12 that are modified by the spring members of the teaching reference to provide an alternate means of enabling damped motion in all directions in a plane. Accordingly, the weight of Aida et al., as modified, remains immovable in the vertical direction by way of the arrangement of elements 8 with respect to elements 9.

Applicant argues that Aida et al. do not determine a natural frequency for the weight and do not include a dynamic vibration absorber tuned to a natural frequency of a structure where the dynamic vibration absorber is installed because bearings 8 and 9 do not have a resiliency with respect to all directions in a plane. If this were the case, then Applicant's own invention would not determine a natural frequency for the weight and would not include a dynamic vibration absorber tuned to a natural frequency of a structure when the dynamic vibration absorber is installed because the direct contact of the weight with the walls 23 and 24 also fails to provide an arrangement of resiliency. Examiner agrees that the direct contact of the weight of Aida et al. by way of elements 8 with elements 9 fails to have resiliency but notes that the arrangement fails to have resiliency because it is not required by the claim recitations to have resiliency with respect to all directions in a plane. In fact, the claim language suggests that elements 8 and 9 should not have resiliency because if they did it would be "difficult to hold the weight immovably in a vertical direction" as Applicant himself argued with respect to the use of spring members mounted in the direction of vertical motion. Contrary to

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Applicant's argument, the claim requires that the dynamic absorber include a plurality of vertically mounted U-shaped leaf springs to enable the weight to be arranged movably with respect to all directions in a plane. Examiner emphasizes that replacing the vertically mounted dampers 10,11,12 of Aida et al. with dampers in the form of U-shaped leaf springs, as taught by JP'789, would satisfy the claim limitation of enabling the weight to be arranged movably with respect to all directions in a plane and the direct contact of the weight by way of elements 8 with elements 9 satisfies the limitation of the weight being arranged immovably in a vertical direction perpendicular to the plane.

Examiner also notes that Applicant's argument with respect to claim 9 is flawed because it states that the teachings of Wood rely on resiliency to create the natural frequency tuning effect. Examiner maintains that Aida et al., as modified, includes resiliency by way of the U-shaped leaf springs as explained above.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb

August 14, 2009

/Melody M. Burch/

Primary Examiner, Art Unit 3657